

CLAIMS

1 1. A method for updating a self-describing, structured document, the method
2 including:

3 receiving a character string including one or more sets of:

4 an update operator;

5 a path specification identifying a node at which the update operator is to be
6 applied; and

7 one or more update values;

8 parsing the character string;

9 accessing a self-describing, structured document; and

10 updating said document with the update values at the path specification.

1 2. The method of claim 1, wherein the character string further includes a
2 document ID.

1 3. The method of claim 2, wherein accessing the document includes retrieving
2 the document based on the document ID.

1 4. The method of claim 1, wherein a document ID is implied by prior state
2 information.

1 5. The method of claim 4, wherein accessing the document includes accessing a
2 data-object-model (DOM) data structure in memory.

1 6. The method of claim 1, wherein the path specification is compliant with any
2 version of an XPath standard.

1 7. The method of claim 3, wherein the path specification is compliant with any
2 version of an XPath standard.

1 8. The method of claim 5, wherein the path specification is compliant with any
2 version of an XPath standard.

1 9. The method of claim 1, wherein the self-describing, structured document
2 includes a document type, further including accessing a schema corresponding to the
3 document type and validating application of the update operator and the update values
4 at the path specification.

1 10. The method of claim 7, wherein the self-describing, structured document
2 includes a document type, further including accessing a schema corresponding to the
3 document type and validating application of the update operator and the update values
4 at the path specification.

1 11. The method of claim 8, wherein the self-describing, structured document
2 includes a document type, further including accessing a schema corresponding to the
3 document type and validating application of the update operator and the update values
4 at the path specification.

1 12. The method of claim 9, wherein the schema is compliant with any version of
2 a SOX standard.

1 13. The method of claim 10, wherein the schema is compliant with any version of
2 a SOX standard.

1 14. The method of claim 11, wherein the schema is compliant with any version of
2 a SOX standard.

1 15. The method of claim 1, further including accessing an element set list
2 corresponding to a plurality of the update values to be applied at the path
3 specification.

1 16. The method of claim 7, further including accessing an element set list
2 corresponding to a plurality of the update values to be applied at the path
3 specification.

1 17. The method of claim 8, further including accessing an element set list
2 corresponding to a plurality of the update values to be applied at the path
3 specification.

1 18. The method of claim 9, further including accessing a set of business
2 processing rules corresponding to the document type and validating application of the
3 update operator and the update values at the path specification.

1 19. The method of claim 10, further including accessing a set of business
2 processing rules corresponding to the document type and validating application of the
3 update operator and the update values at the path specification.

1 20. The method of claim 11, further including accessing a set of business
2 processing rules corresponding to the document type and validating application of the
3 update operator and the update values at the path specification.

1 21. The method of claim 18, wherein the business processing rules are
2 Schematron-compliant.

1 22. The method of claim 19, wherein the business processing rules are
2 Schematron-compliant.

1 23. The method of claim 20, wherein the business processing rules are
2 Schematron-compliant.

1 24. The method of claim 1, wherein a single update operator applies to a plurality
2 of the sets.

1 25. The method of claim 1, wherein the update operator is implied and not
2 explicit in the character string.

1 26. The method of claim 1, wherein the update operator specifies adding one or
2 more update values as sibling nodes of the node identified.

1 27. The method of claim 1, wherein the update operator specifies adding one or
2 more update values as sibling nodes of the node identified, after the node identified.

1 28. The method of claim 1, wherein the update operator specifies adding one or
2 more update values as sibling nodes of the node identified, before the node identified.

1 29. The method of claim 1, wherein the update operator specifies adding one or
2 more update values as descendent nodes of the node identified.

1 30. A method for updating of a self-describing, structured document, the method
2 including:

3 receiving a request identifying a starting document and specifying a document
4 type to be generated from the starting document;

5 accessing at least first and second declarative transformations corresponding to
6 the starting document and the specified document type;

7 applying the first declarative transformation to the starting document, producing a
8 resulting document of the specified document type;

9 applying the second declarative transformation to the resulting document,
10 producing character string data including a plurality of

11 path specifications for nodes in the resulting document;

12 starting values copied from the starting document for at least some of the
13 nodes; and

14 editable values for at least some of the nodes;

15 responding to the request with the character string data;

16 receiving an updated version of the character string data; and

17 producing an updated resulting document corresponding to the updated version of
18 the character string data.

1 31. The protocol of claim 30, wherein the request further includes a document ID.

1 32. The method of claim 31, further including accessing the starting document
2 based on the document ID.

1 33. The method of claim 30, wherein a document ID is implied by prior state
2 information.

1 34. The method of claim 33, wherein the starting document is represented by a
2 data-object-model (DOM) data structure in memory.

1 35. The method of claim 30, wherein the path specifications are compliant with
2 any version of an XPath standard.

1 36. The method of claim 32, wherein the path specifications are compliant with
2 any version of an XPath standard.

1 37. The method of claim 34, wherein the path specifications are compliant with
2 any version of an XPath standard.

1 38. The method of claim 30, wherein the specified document type corresponds to
2 a schema, further including validating the updated resulting document against the
3 schema.

1 39. The method of claim 38, wherein the specified document type and a chosen
2 trading partner correspond to a set of business processing rules, further including
3 validating the updated resulting document against the set of business processing rules.

1 40. The method of claim 38, wherein the schema is compliant with any version of
2 a SOX standard.

1 41. The method of claim 39, wherein the schema is compliant with any version of
2 a SOX standard.

1 The method of claim 39, wherein the business processing rules are
2 Schematron-compliant.